

In the United States Court of Federal Claims

No. 11-869C

(Filed: March 10, 2014)

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CAROLINA POWER & LIGHT CO. et al., *

Plaintiffs, *

v. *

THE UNITED STATES, *

Defendant. *

***** *

Spent Nuclear Fuel Case; Nuclear
Waste Policy Act of 1982;
Recovery of Mitigation Damages
for DOE's Partial Breach of
Contract.

Brad Fagg, with whom were *Paul M. Bessette*, and *David M. Kerr*, Morgan Lewis & Bockius, LLP, Washington, D.C., for Plaintiffs.

Christopher J. Carney, with whom were *Stuart F. Delery*, Assistant Attorney General, and *Byrant G. Snee*, Acting Director, United States Department of Justice, Civil Division, Commercial Litigation Branch, Washington, D.C., *Jane K. Taylor*, *Lisa J. Donahue*, *Sonia M. Orfield*, and *Shari A. Rose*, Of Counsel, for Defendant.

OPINION AND ORDER

WHEELER, Judge.

Plaintiffs Carolina Power & Light Company ("CP&L") and Florida Power Corporation ("FPC") claim damages of \$104,991,508 from Defendant caused by the failure of the Department of Energy ("DOE") to collect and dispose of spent nuclear fuel beginning January 31, 1998 under the terms of the DOE Standard Contract.

This is a "Round 2" spent nuclear fuel ("SNF") damages case. See Indiana Michigan Power Co. v. United States, 422 F.3d 1369, 1378 (Fed. Cir. 2005) (utilities required to file successive actions for damages related to DOE's breach within six years of incurring such damages). "Round 1" of this case covered Plaintiffs' claims for damages incurred through December 31, 2005. The Round 1 litigation was resolved by this Court in 2008 and upon remand in 2011. Carolina Power & Light Co. v. United

States, 82 Fed. Cl. 23 (2008); Carolina Power & Light Co. v. United States, 98 Fed. Cl. 785 (2011). This proceeding covers damages sustained from January 1, 2006 through December 31, 2010, and covers the same four nuclear power plant sites as Round 1: the Harris, Brunswick, Robinson, and Crystal River sites.

CP&L and FPC are wholly-owned subsidiaries of Progress Energy, Inc., a public utility in the southeast United States. Progress Energy, Inc. completed a merger with Duke Energy Corporation on July 2, 2012. CP&L is now known as Duke Energy Progress, Inc.¹ Plaintiffs' damages consist of costs incurred in mitigation of DOE's partial breach of the Standard Contract. This Court has jurisdiction over Plaintiffs' claims pursuant to the Tucker Act, 28 U.S.C. § 1491(a). See PSEG Nuclear, LLC v. United States, 465 F.3d 1343 (Fed. Cir. 2006). Defendant's liability for partial breach of contract has already been established. See Maine Yankee Atomic Power Co. v. United States, 225 F.3d 1336, 1337-40 (Fed. Cir. 2000) ("Maine Yankee"). Thus, the questions currently before the Court are limited to the calculation and allocation of damages incurred from the DOE's continuing breach.

Plaintiffs' damages claims fall into five broad categories: (1) \$66,375,235 to complete construction of an Independent Spent Fuel Storage Installation² at Brunswick; (2) \$7,760,680 to expand and load spent fuel onto the dry storage facility at Robinson; (3) \$21,143,250 to design, engineer, and develop a dry storage facility at Crystal River; (4) \$4,291,417 for the procurement and installation of additional racks in the Harris C spent fuel pool; and (5) \$5,420,926 to conduct transshipments of spent fuel from the Brunswick to Harris plant. However, of this approximately \$105 million claim, only \$23 million is contested by the Government.

The Court conducted a three-day trial in Washington, D.C. during September 23-25, 2013. Plaintiffs called the following witnesses: Allen Brittain, manager of nuclear security at Brunswick; Steve Edwards, manager of dry fuel storage at Duke Energy; David Guseman, manager of nuclear information technology at Brunswick; Denise Hards, business planning manager for customer operations at Progress Energy; and Richard Tripp, project manager for the dry storage facility project at Brunswick. Counsel for the Defendant called Larry Johnson and Gregory A. Maret as expert witnesses.

For the reasons explained below, the Court finds that Plaintiffs are entitled to recover \$103,748,230.14 in mitigation damages through December 31, 2010. The Court has disallowed three elements of Plaintiffs' damages claims. For these items: the

¹ In this opinion the Court will refer to "Progress Energy" or "Plaintiffs" when describing the entities formerly known as Carolina Power & Light Company and Florida Power Corporation.

² An Independent Spent Fuel Storage Installation is a facility designed and constructed for dry storage of spent nuclear fuel. The Court will use the term "dry storage facility" when referring to such facilities in this opinion.

Brunswick computer system replacement; the Brunswick crane studies; and the Crystal River 3 mobile BRE, the Court concludes that Plaintiffs would have incurred these expenses for other reasons absent DOE's partial breach.

Findings of Fact

On April 30, 2013, the Court ordered the parties to undergo a comprehensive pretrial accounting review process to reach agreement, as much as possible, on the costs associated with each of Progress Energy's mitigation efforts. See Pretrial Order on Damages (Dkt. No. 12). With Progress Energy's cooperation, Defendant reviewed invoices, purchase orders and contracts, accounting records and work orders, and other electronic data. As a result of this process, the Government does not dispute that Progress Energy incurred the costs it claims as damages for the period from January 1, 2006 through December 31, 2010.

The pretrial accounting review substantially narrowed the issues before the Court. Defendant acknowledges that Plaintiffs are entitled to recover approximately \$82 million. Defendant's primary objection to the approximately \$23 million in dispute is that these costs were not caused by the breach. The following facts are relevant to deciding the remaining issues of disagreement.

A. The Standard Contract for the Disposal of Spent Nuclear Fuel

On January 7, 1983, Congress passed the Nuclear Waste Policy Act of 1982 ("NWPA"), Pub. L. 97-425, 96 Stat. 2201, codified at 42 U.S.C. §§ 10101-10270 (1982).³ In adopting the NWPA, Congress recognized that "radioactive waste creates potential risks and requires safe and environmentally acceptable methods of disposal," and that "a national problem has been created by the accumulation of [spent nuclear fuel]." 42 U.S.C. § 10131(a)(1)-(2).

DOE, acting on behalf of the Government, entered into a "Contract for Disposal of Spent Nuclear Fuel and/or High Level Radioactive Waste" (the "Standard Contract") with both CP&L and FPC. (Stip. ¶ 9). The contract CP&L executed covered the SNF generated at the Brunswick, Harris, and Robinson plants, and the contract FPC executed covered the SNF generated at the Crystal River plant. (Stip. ¶ 10).

Under the Standard Contract, CP&L and FPC have paid quarterly fees to DOE since April 7, 1983, based on electricity production from nuclear fuel in exchange for DOE's obligation to dispose of spent nuclear fuel and high level waste beginning no later than January 31, 1998. (Stip. ¶ 13). Through December 31, 2010, Progress Energy paid

³ A detailed history of the Nuclear Waste Policy Act of 1982 and the Standard Contract for the disposal of spent nuclear fuel can be found in the Court's previous opinion in the Round 1 litigation. Carolina Power, 98 Fed. Cl. 785.

approximately \$820 million in fees for the disposal of spent fuel under the contracts. (Stip. ¶ 14). To date, DOE has not provided for the transportation of any SNF or high level radioactive waste from Progress Energy's sites to a DOE facility.

B. Progress Energy's Causation Model

At trial, Plaintiffs illustrated the impact of DOE's failure to perform by reference to PX 335, a summary spreadsheet referred to by the parties and the Court as a causation model. The concept of the model is to take real-world factual circumstances of spent fuel storage at the subject sites, and to overlay assumptions of required DOE performance. (Edwards, Tr. 50-51). From that model, Plaintiffs identified those activities that were performed in the real world that would not have been performed if DOE had not breached. (Edwards, Tr. 51).

Plaintiffs based their spent fuel management strategy upon maintenance of full core reserve. (Stip ¶ 6). "Full core reserve" refers to the practice of providing enough open spaces in the spent fuel pools so that the operator of a nuclear reactor can do a full discharge of all of the fuel in the reactor over to the spent fuel pool, if necessary. (Edwards, Tr. 73-74). By applying the causation model, Plaintiffs demonstrated that if DOE had performed, the number of open spaces in the spent fuel pools would always be greater than the full core reserve for each of the units. (Edwards Tr. 82-83). Therefore, if DOE had performed, Progress Energy could have maintained full core reserve without the need to construct any dry storage facilities. Plaintiffs' claim covers four nuclear power plant sites, but the disputed costs in this case relate only to the mitigation actions taken at two Progress Energy sites: Crystal River and Brunswick.

C. Crystal River 3 Nuclear Power Plant

The Crystal River 3 Nuclear Power Plant is a single unit pressurized water reactor ("PWR") site located near Crystal River, Florida. (Stip. ¶ 15). As a result of DOE's breach, dry storage of spent fuel was required at Crystal River. Progress Energy commenced development of a dry storage facility at Crystal River, and undertook certain activities in support of that effort during the claim period.

At trial, Plaintiffs demonstrated that Progress Energy would not have built a dry storage facility if DOE had performed because of the difficulties of building dry storage at Crystal River. (Edwards, Tr. 104). The difficulties include the fact that Crystal River is a small, compact nuclear site, surrounded by four fossil units on all sides. (Edwards, Tr. 96-97). Furthermore, a significant amount of state environmental permitting is required to build a dry storage facility and the project requires soil remediation. In sum, in a world of legally-required DOE performance, the management of Progress Energy would not approve of the construction of a dry storage facility at the Crystal River site. If

DOE had performed, Progress Energy could have maintained full core reserve without the expenses and construction challenges associated with building a dry storage facility.

On February 13, 2013, Plaintiffs announced that the Crystal River unit would be permanently retired. (Stip. ¶ 17). Even considering the early retirement of the site in 2013, Progress Energy would not have constructed a dry storage facility at Crystal River if DOE had been performing. As Plaintiffs testified, DOE has taken the position that under the Standard Contract, DOE will only accept fuel out of the spent fuel pools. (Edwards, Tr. 104). If DOE would not accept fuel in canisters in the non-breach world, it would make no sense for Progress Energy to construct a dry storage facility in the non-breach world. Moreover, if the plant was going to be retired, the dry storage facility and the canisters would need to be decommissioned in only a few years. (Edwards, Tr. 105). For these reasons, building a dry storage facility in the non-breach world would involve significant risk and expense with little value in return.

To study and design the Crystal River dry storage facility, Progress Energy had to take several actions for which it now seeks mitigation damages. First, prior to moving the 110-ton dry-storage casks from the reactor building to the dry storage site, Progress Energy had to evaluate the path the casks would take, in order to make sure that the weight could be accommodated. Second, the Crystal River dry storage facility project necessitated the relocation of the eastern perimeter of the site. To support security during this process, Progress Energy acquired a mobile bullet-resistant enclosure (“BRE”) in which a security officer sits to monitor a portion of a nuclear facility. (Tripp, Tr. 282). Third, in connection with the anticipated loading of the fuel into the Crystal River dry storage facility, Progress Energy had to collect data about the core components of the fuel being stored. This information was required to ensure that Progress Energy used the proper canister and spacers.

D. Brunswick Nuclear Plant

The Brunswick Nuclear Plant is a two unit boiling water reactor (“BWR”) site located near Southport, North Carolina. (Stip. ¶ 46). In or about 2003, Progress Energy determined that it would require additional spent fuel storage capacity at Brunswick by 2010. (Stip. ¶ 54). To accommodate its SNF storage needs at Brunswick, Progress Energy elected to construct a dry storage facility. From January 1, 2006 through December 31, 2010, Progress Energy incurred costs to construct the Brunswick dry storage facility and conduct the initial loading campaign. (Stip. ¶ 58). The following costs are contested by the Government.

First, Progress Energy claims it is entitled to damages for costs to accommodate larger storage casks. After the breach, Progress Energy switched from rail 75-ton casks to larger 110-ton dry-storage casks in order to store the spent fuel on location. At trial, Plaintiffs demonstrated a proven track record of an ability to handle 75-ton casks at the

Brunswick site. Indeed, from January 1, 2006 through December 31, 2010, Progress Energy made sixteen transshipments of spent fuel assemblies from Brunswick to Harris using 75-ton casks. The switch to the heavier casks necessitated several modifications to the site and reactor buildings at Brunswick. These mitigation damages include the following challenged costs: (1) removing a beam from the spent fuel cask preparation area, (Tripp Tr. 294-95); (2) installing a cask loading platform, (Tripp, Tr. 273); (3) conducting heat load analyses (Tripp, Tr. 295); and (4) installing helium/drying racks. (Tripp, Tr. 295-96).

Second, Progress Energy seeks to recover costs for the crane studies it conducted at Brunswick. Prior to DOE's partial breach, Progress Energy used two 125-ton Brunswick cranes to load 75-ton casks for shipment to the Harris site. As part of the Brunswick dry storage project, Progress Energy concluded that it would be prudent to determine if its existing cranes were qualified to lift the heavier 110-ton dry-storage casks. The crane review revealed problems with the structural design of the Units 1 and 2 cranes—conditions that existed since the plant began operations. As a result of the Brunswick crane studies, Progress Energy temporarily downgraded the cranes to 40 tons and made modifications addressing newly discovered issues, such as seismic and wind loads, to restore the cranes to their original capacity. Based on the studies, Progress Energy also found it necessary to replace the wire ropes to prepare for lifting the 110-ton dry-storage casks. (Tripp, Tr. 287).

Third, Progress Energy had to expand, by some 177,000 square feet, the security protected area around the plant to include the dry storage facility. (Tripp, Tr. 278). The existing protected area had 33 zones, and an additional 14 zones were needed to accommodate the dry storage facility. (Tripp, Tr. 278). This expansion created additional alarm points, but Progress Energy's security alarm processing computer server at the time did not have the capacity for these additional inputs. (Tripp, Tr. 279). Progress Energy upgraded the security computer system at Brunswick to accommodate the expanded protected area. Prior to initiation of the Brunswick dry storage project, the security system computer, server, and workstations at the plant were part of a system which had been installed during the 1990s. (Guseman, Tr. 346). The system was still operational, but it had been in a limited support mode for a number of years. (Brittain, Tr. 433).

Building the dry storage facility required the use of materials classified as "safeguards" information, which must be maintained and used strictly in accordance with Nuclear Regulatory Commission ("NRC") regulations for the control and protection of such information. Since the dry storage site at Brunswick was outside of the protected area at the time of construction, a safeguards information area was constructed outside of the protected area for the purpose of housing dry storage materials. (Tripp, Tr. 281).

Discussion

A. Standard of Review

In awarding damages for a partial breach of contract, the Court must endeavor to place the injured party in as good of a position as it would have been if the breaching party had performed. Sys. Fuels, Inc. v. United States, 666 F.3d 1306, 1314 (Fed. Cir. 2012). In SNF cases, the plaintiff is entitled to recover its reasonable costs incurred in its efforts to mitigate damages. Plaintiffs must show that: (1) the damages were reasonably foreseeable by the breaching party at the time of contracting; (2) the breach was a substantial causal factor in the incurrence of damages; and (3) the damages are established with reasonable certainty. Indiana Michigan, 422 F.3d at 1373 (citing Energy Capital Corp. v. United States, 302 F.3d 1314, 1320 (Fed. Cir. 2002)).

1. Foreseeability

A plaintiff may only recover for mitigation costs that were reasonably foreseeable by the breaching party at the time of contracting. Yankee Atomic Elec. Co. v. United States, 536 F.3d 1268, 1273 (Fed. Cir. 2008). Here, DOE was aware that if it failed to pick up Plaintiffs' spent fuel, Plaintiffs would have to incur substantial costs storing the spent fuel on their own. See Indiana Michigan, 422 F.3d at 1375 ("Having been placed in a position where they are required to find alternate storage for SNF, the utilities must *de facto* accept responsibility to guard against the environmental impact of improperly-disposed and maintained SNF, a situation which the NWPA was enacted to avoid."). The Court finds that, at the time of contracting, DOE could have reasonably foreseen Plaintiffs' efforts to store spent fuel after Plaintiffs became aware that DOE did not intend to perform.

2. Causation

A plaintiff bears the burden of proving that DOE's partial breach was a substantial causal factor of each claimed mitigation cost. See Indiana Michigan, 422 F.3d at 1373. Although Indiana Michigan stated that the utilities must satisfy the substantial causal factor test, previous decisions of this Court have applied the more difficult "but-for" causation test. See, e.g., Northern States Power Co. v. United States, 78 Fed. Cl. 449, 462 (2007) (holding that utility presented sufficient evidence showing that it would have pursued cheaper interim storage options in the but-for world). Ultimately, the selection of a causation standard is at the trial court's discretion and depends upon the facts of the case. Citizens Fed. Bank v. United States, 474 F.3d 1314, 1318 (Fed. Cir. 2007). For each of the disputed damages items here, the Court will apply the but-for test or the substantial causal factor test as appropriate.

To prove causation, a plaintiff must present evidence about its condition, assuming full Government performance, to allow the Court to compare the breach and non-breach worlds. Yankee Atomic, 536 F.3d at 1273. A non-breaching party should not be placed in a “better position” through an award of damages than if there had been no breach—if a cost “would have been incurred even in the non-breach world, it is not recoverable.” Energy Northwest v. United States, 641 F.3d 1300, 1307 (Fed. Cir. 2011). The burden on a plaintiff is one of “persuasion.” Southern Nuclear Operating Company v. United States, 637 F.3d 1297, 1304 (Fed. Cir. 2011). In this case, Plaintiffs and Defendant have agreed on the vast majority of costs. The remaining disputed costs are challenged on grounds that Plaintiffs have failed to prove causation.

3. Reasonable Certainty

A plaintiff may only recover those damages that can be shown with reasonable certainty. Vermont Yankee Nuclear Power Corp. v. Entergy Nuclear Vermont Yankee, LLC, 683 F.3d 1330, 1349 (Fed. Cir. 2012). With these principles in mind, the Court ordered the parties to undergo a comprehensive pretrial accounting review process to reach agreement as much as possible on the costs associated with each of Progress Energy’s mitigation efforts. As a result of this process, the Government does not contest the accuracy of the dollar amounts, and does not dispute that the expenditures were reasonable at the time the sums were expended by Plaintiffs.

B. Disputed Costs

The parties agree that Plaintiffs are entitled to recover \$81,950,260 in mitigation damages. The remaining \$23,041,248 of Plaintiffs’ claim consists of six categories that the Government asserts are not recoverable: (1) damages related to the construction of a dry storage facility at Crystal River; (2) costs to accommodate larger casks; (3) the Brunswick crane studies; (4) the Brunswick computer system replacement; (5) the Crystal River Assembly data; and (6) the Crystal River mobile BRE. The Government argues that for these challenged items Plaintiffs failed to carry the burden to show that those same costs would not have been incurred if DOE had performed. The Court addresses each of the disputed items below.

C. Deduction of Indirect Costs

In SNF cases, the proper calculation of damages considers both direct and indirect costs. Energy Northwest, 641 F.3d at 1306. Progress Energy has asserted damages related to certain types of costs that cannot be directly identified with specific sub-projects. These costs include internal labor, indirect overhead, and staff augmentation support. If Progress Energy is entitled to include allocations of indirect costs in its damages claim, then the disallowance of particular direct costs also necessitates the disallowance of the indirect costs associated with that direct cost. Here, the Government’s cost-accounting expert, Larry Johnson, has devised a formula to capture

the estimated indirect costs associated with each direct claim. (DX 451 at 13-14). Using this formula, the Court has deducted the associated indirect costs of the disallowed claims from Progress Energy's overall claim.

Additionally, \$162,927 of the allocated costs identified by the Government's expert are attributable to direct costs that have been removed from the claim by Progress Energy but for which Progress Energy failed to remove the associated indirect overhead costs. (DDX 2 at 29). Therefore, the Court has reduced Progress Energy's claim further by \$162,927 to account for the indirect overhead associated with the direct costs that Progress itself has removed from the claim.

1. Crystal River 3 Causation

Progress Energy seeks to recover \$21,143,438 in damages related to the construction of a dry storage facility at Crystal River. Plaintiffs illustrated the impact of DOE's failure to perform by reference to summary spreadsheet PX 335. In Round 1 of the litigation, the Court found that this model created a plausible non-breach world on which to base its damages. Carolina Power, 98 Fed. Cl. at 795. Here, in the Round 2 litigation, the Government disputes that Progress Energy has proven entitlement to the costs associated with constructing dry storage at Crystal River. The underlying model was the same as the one used in Round 1 of the litigation, but the causation model for Crystal River needed to be updated to reflect the fact that Progress Energy decided to permanently close the Crystal River plant in February 2013. (Edwards, Tr. 185-86). Furthermore, the Government argues that some spent fuel might have been on the Crystal River site long enough in a world of DOE performance that the presence of that fuel might have persuaded Plaintiffs to construct dry storage anyway.

a. The Revised Model

At the time the original causation model was created for these proceedings the model went forward to the end of Crystal River's expected operation in 2036. (Edwards, Tr. 94). On February 13, 2013, Plaintiffs announced that the Crystal River unit would be permanently retired. (Stip. ¶ 17). Therefore, at the time of trial, Plaintiffs decided to amend the causation model. Plaintiffs knew that it was no longer accurate to show discharges every two years going forward to 2036, and so Progress Energy changed the model so that it stopped in 2013.

The Government disputes causation for all Crystal River costs, and argues that Progress Energy failed to present a complete causation model establishing what its costs would have been in the absence of the breach. This argument elevates form over substance. At trial, a plaintiff bears the burden of establishing that the alleged mitigation costs were caused by the breach. Energy Northwest, 641 F.3d at 1307. A plaintiff can prove the amount of costs by whatever means available, so long as "the cumulative result

is a reasonable certainty that the awarded costs were actually caused by the breach.” *Id.* at 1309. Here, the Court finds that Progress Energy has met this burden. All dry storage facility-related spent fuel storage activities during the claim period were undertaken because the company expected that the unit would soon run out of space and lose full core reserve in its pools. (Edwards, Tr. 93). Plaintiffs showed at trial that in a world of legally-required DOE performance, no dry storage would be required to maintain full core reserve at Crystal River. Furthermore, Plaintiffs showed that the management of Progress Energy would never approve of the construction of a dry storage facility, if DOE had been performing, because of the associated risks and costs. The Court finds that Progress Energy has met its burden of showing that it would not have incurred these costs in the absence of the breach.

b. The Effect of the Crystal River Retirement

The Government also argues that the retirement of the Crystal River unit in 2013 makes certain costs incurred during the claim period unrecoverable because Plaintiffs have failed to meet their burden of showing that dry storage would not have been pursued at Crystal River in light of that subsequent retirement. (Tr. 32, Statement of Counsel). In its pretrial brief, the Government pointed out that in the non-breach world, if DOE were performing and the Crystal River plant was shut down, Progress Energy would have made an assessment about how long it would need to keep its spent fuel pool operating before all the SNF would be gone.

The Government’s position is an argument for the next round of this litigation not for the claims currently before the Court. The announcement of Crystal River’s closure came two years after the claims period ended. The relevant time for assessing the recoverability of costs for mitigation activities is at the time those mitigation steps are taken. At trial, Progress Energy explained that at all times during the claims period, Plaintiffs believed Crystal River to be an operating plant, with an operating license that would be extended through 2036. (Edwards, Tr. 93). At issue here is causation for mitigation damages incurred during this claims period, and the retirement of Crystal River in 2013 cannot have caused Progress Energy to incur costs prior to 2010. Put another way, recoverable costs cannot be rendered unrecoverable by future events outside of the claim period.

c. Effect on Future Proceedings

At trial, Progress Energy showed that by using just Crystal River’s own allocations to remove SNF, Crystal River could have all its SNF removed by 2025. (Edwards, Tr. 113-15). This evidence supports Progress Energy’s contention that it would have made no business sense to construct dry storage at Crystal River that would

only be used for nine years. Indeed, the 2025 fuel “out date”⁴ was the worst case scenario that Plaintiffs arrived at by making conservative assumptions about pick-up rate allotments. (Edwards, Tr. 133). Plaintiffs further explained that this worst case assumption would not reflect DOE performance because Duke Energy operates as a single fleet and would have utilized inter-utility exchanges to remove the SNF on an expedited basis.

The Government argues that if Progress Energy is awarded the costs for dry storage at Crystal River based upon the testimony it adduced regarding a 2025 final SNF removal date, the company should be held to this date in future proceedings. Such a finding would likely be at odds with the evidence introduced at trial and with common sense assumptions about how DOE would respond to a plant’s closing.⁵ However, the Court will refrain from ruling on the merits of the Government’s argument. A ruling on this issue would have no effect on damages in this proceeding. Rather, the Government seeks a finding from the Court that would have a preclusive effect in future proceedings. This would constitute an advisory opinion, and the Court is prohibited from issuing advisory opinions. Fina Oil and Chemical Company v. United States, 123 F.3d 1466, 1470 (Fed. Cir.1997). Accordingly, the Court rejects the Government’s request to hold Progress Energy to this date in future proceedings.

2. Costs to Accommodate Larger Casks

Plaintiffs seek \$828,129 in damages to cover the costs associated with the modifications and activities necessary to support the larger and heavier dry storage canisters necessitated by DOE’s breach. Specifically, the costs include: (1) \$517,603 for

⁴ The “out date” is the date by which the last fuel assembly would be removed by the plant. See, e.g., Portland Gen. Elec. Co. v. United States, 107 Fed. Cl. 633, 644 (2012). The date is used to determine whether a utility would choose to leave its fuel in wet storage and incur ongoing costs for operating a spent fuel pool or close the wet pool or move the SNF in to dry storage.

⁵ After closing arguments, both parties submitted supplemental briefing on the issue of whether any case law has addressed DOE’s potential departure from previously announced pick-up rate allotments to deal with the circumstances of a nuclear plant shutdown. This issue will not be ripe until the next round of litigation. However, the case law supports Plaintiffs’ argument that it would not be appropriate for the Court to make a preclusive finding about a fuel “out date.” The case law suggests that in a reasonable non-breach world, DOE might depart from previously announced rates and remove the spent fuel in an expedited manner. See Yankee Atomic Elec. Co. v. United States, 679 F.3d 1354, 1360 (Fed. Cir. 2012) (affirming trial court’s finding that DOE would not have adopted an oldest fuel first procedure in the non-breach world); Portland Gen. Elec., 107 Fed. Cl. at 645 (finding that parties would depart from previously announced pick-up allotments by exchanging allocations to maximize savings and efficiency).

the Brunswick plant modifications; (2) \$90,600 for the Brunswick wire rope; and (3) \$280,946 for the Crystal River haul path evaluation.

The Standard Contract requires DOE to provide casks for transportation that are suitable for use at the sites and that meet regulatory requirements. There are essentially three major categories of casks: heavy rail, light rail, and truck. DOE has not indicated what sort of cask it would have used had it performed as required. (Edwards, Tr. 141). Plaintiffs take the position that, if DOE had performed, DOE would have supplied a 75-ton light rail cask at Brunswick. (Edwards, Tr. 139).

According to Plaintiffs, there was a proven track record at the Brunswick site of an ability to handle 75-ton casks. In support of their claims, Plaintiffs point to the real world use of 75-ton casks to ship spent nuclear fuel from the Brunswick plant. These transshipments were made for years prior to DOE's partial breach without the need for the dry storage facility-related modifications. After the breach, Progress Energy was forced to switch to larger 110-ton dry-storage casks. The Government contends that Plaintiffs would have chosen to switch to large rail casks at the Brunswick and Crystal River plants regardless of the breach. According to the Government, Plaintiffs have failed to prove that Progress Energy would have foregone spending the modest sums necessary to undertake the conversion to large rail casks, which could have saved potentially tens of millions of dollars in loading costs.

The Court finds that if DOE had not partially breached the Standard Contract, there would have been no need to switch from 75-ton casks to the larger 110-ton casks. At trial, Progress Energy found support for this argument from none other than the Government's expert witness, Mr. Maret. In Round 1 of this litigation, when calculating the loading cost deduction, Mr. Maret assumed that Progress Energy would be using 75-ton casks when transferring spent fuel to Yucca Mountain. (PX 245 at 14). Mr. Maret made this assumption because the comparatively small cask would have maximized the "loading cost" damage reduction in that case. Yet, in Round 2 of this litigation, Mr. Maret argued that in a non-breach world, Plaintiffs would have made the modifications to handle 110-ton casks.

The Court finds no valid justification for this reversal of position. The Government explains that the management of Progress Energy would likely consider the tradeoffs between making the modifications and the potential risk of not doing so. For example, Mr. Maret explained that larger casks might reduce the risks of radiation exposure. However, such considerations would have been just as true in Round 1 when the same expert took the opposite position and declared that the use of 75-ton casks was reasonable. The Court finds that the claimed costs are recoverable.

3. Brunswick Crane Studies

Progress Energy seeks \$429,330 in costs for the crane studies it conducted at Brunswick along with \$43,582.86 in indirect costs.⁶ Prior to DOE's partial breach, Progress Energy used two 125-ton Brunswick cranes to load 75-ton casks for shipment to the Harris site. The switch to heavier 110-ton dry-storage casks prompted Progress Energy to conduct a review of its cranes. Problems with the structural design were discovered, and Plaintiffs made modifications to the cranes. Plaintiffs have voluntarily removed the costs for these modifications from Progress Energy's current claim. However, Plaintiffs argue that the crane studies themselves would not have been necessary if the Government had not breached the contract.

Here, Plaintiffs have not met their burden of persuasion. The needed modifications that Progress Energy made after the study suggest that the study had value beyond the need for dry storage at Brunswick, and would have been performed independent of the breach. At the very least, the Court finds that the benefit Progress Energy received should reduce Plaintiffs' damages. Kansas Gas & Electric Co. v. United States, 685 F.3d 1361, 1367 (Fed. Cir. 2012) (reducing plaintiff's damages to account for efficiency benefits from a re-rack project). As a result, the Court finds that the \$472,913.86 for the crane study is unrecoverable.

4. Brunswick Computer System Replacement and BNP Safeguards Area

Progress Energy seeks \$437,837 in direct costs and \$107,452 in indirect costs to recover the expenses associated with the replacement of the security computer system at Brunswick. According to Progress Energy, it had to upgrade the security computer system at Brunswick to accommodate the expanded protected area around the Brunswick plant to include the dry storage facility. The expanded protected area created additional alarm points, but Progress Energy's security alarm processing computer at the time did not have the capacity for these additional inputs. Accordingly, Plaintiffs argue that DOE's breach was a substantial causal factor of the cost incurred to upgrade the computer system.

The Government argues that the security system would have been upgraded regardless of DOE's breach. The Government finds strong support in a document produced by Progress Energy, an engineering change package (EC), which suggests that standardization across the sites was the primary reason for the computer replacement. The EC reads:

⁶ Progress Energy's original claim was for \$564,104. However, there were two line-item charges, for \$90,600 and \$44,165, which were not crane study costs and were removed from this particular claim.

This SCS [security computer system] replacement will standardize the [Brunswick] SCS to the Progress Energy fleet SCS software solution. The other three nuclear sites in the Progress Energy Nuclear Plant Fleet use the same SCS the GSE Access Alarm Reporting Detection System (GAARDS). The software code for this SCS is owned by Progress Energy. This fleet standard SCS will be installed at [Brunswick] to replace the current [Brunswick] SCS. This fleet approach to the SCS installations will allow for greater system support and lower costs for maintaining the security computer systems.

(PX398 at CP_FP00360371).

This document shows the standardization benefits provided by the replacement, and suggests that this cost would have been incurred even in the non-breach world. These upgrades might not have occurred at the exact same time in the non-breach world as they did in the actual world, but they would have occurred at a reasonably similar time given the age of the equipment. Accordingly, Plaintiffs' \$545,289 claim for the computer system replacement is denied.

Plaintiffs also seek to recover \$13,932 for the costs associated with constructing the safeguards information area. The Court has already found that DOE's partial breach caused Progress Energy to construct the dry storage facility at Brunswick, and the building of this facility necessitated the construction of the safeguards information area. Thus, the Court finds that Plaintiffs would not have constructed the safeguards information area if DOE had performed under the Standard Contract. For this reason, Plaintiffs can recover \$13,932.

5. Crystal River 3 Assembly Data

Progress Energy seeks \$66,321 to recover the cost of obtaining discharged fuel dimensional data regarding SNF stored at Crystal River. The Government's expert, Mr. Maret, suggested that this same sort of data would be required if DOE had performed and was required to load a DOE-supplied cask. (Maret, Tr. 486, 524). However, the information Plaintiffs had to acquire is not the kind of information that would necessarily be needed to load the fuel into any cask. Rather, the spent fuel data that Plaintiffs had to acquire was far more detailed and was dictated by the unique technical specifications of the particular Transnuclear cask that was selected for the dry storage caused by DOE's breach. (Edwards, Tr. 144-47). The data that had to be acquired was even more detailed than the generic spent fuel assembly information called out in the DOE Standard Contract. Accordingly, the Court finds that these costs would not have been incurred in the non-breach world and are therefore recoverable.

6. Crystal River 3 Mobile BRE

Plaintiffs seek to recover \$60,150 of direct costs and \$1,999 of allocated indirect costs to cover the cost of a mobile BRE. According to Progress Energy, the mobile BRE was acquired to support security during the perimeter relocation that was part of the Crystal River dry storage project. The Government contends that the BRE was used for reasons unrelated to dry storage.

At trial, Mr. Tripp, a project manager at the Brunswick plant, testified that the mobile BRE was shipped from Crystal River to Brunswick when it was needed to complete a chiller project that he managed. This project had no relation to spent fuel. (Tripp, Tr. 282, 333). Upon completion of that project, the mobile BRE was returned to Crystal River. However, Plaintiffs did not offer any evidence showing what the BRE is being used for now that it is back at Crystal River. The Court can only assume that it is not being used to support the dry storage of spent nuclear fuel since that project has been suspended.

A plaintiff must prove the extent to which its incurred costs differ from the costs it would have incurred in the non-breach world. Energy Northwest, 641 F.3d at 1306. Here, the Court finds that Plaintiffs have failed to prove that the cost of the BRE is different from the cost it would have incurred in the non-breach world. The fact that the BRE was needed at Brunswick suggests that Progress Energy would have had to purchase a BRE anyway. The \$62,149 claim for the mobile BRE is not recoverable.

Conclusion

Based upon the foregoing, the Court awards damages to Plaintiffs of \$103,748,230.14. The Court directs the Clerk to enter judgment in favor of Plaintiffs in that amount. Pursuant to Rule 54(d) of the Court, reasonable costs are awarded to Plaintiffs.

IT IS SO ORDERED.

s/ Thomas C. Wheeler
THOMAS C. WHEELER
Judge